

NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
CHECK VALVE, ITEM 113A ----- SV778873-15 (1)	2/2	113AFM01 Fails closed. Ball jams, contamination.	END ITEM: Unable to pass oxygen from the SCU through the check valve, and into the PLSS bottles. GFE INTERFACE: Unable to recharge the primary oxygen tanks. MISSION: Loss of use of one EMU. CREW/VEHICLE: None. TIME TO EFFECT /ACTIONS: Hours. TIME AVAILABLE: N/A TIME REQUIRED: N/A REDUNDANCY SCREENS: A-N/A B-N/A C-N/A	A. Design - Smooth sapphire ball free floats in vespel cavity. Valve inlet and outlet protected by a 25 micron filter. Pressure force to move ball off seat is 5.0 lbs. minimum. B. Test - Component Acceptance Test (Vendor) - The regulator manufacturer, CTI, performs a flow capacity test on the Item 113A during the Regulator Acceptance Test. PDA Test - Throughout testing per SEMU-60-010 the oxygen bottles are continually being filled. A failed closed check valve could be detected at any test in which the bottles are to be filled. Certification Test - Certified for a useful life of 20 years (Ref. EMUM-0083). C. Inspection - All details, gases and test facilities are cleaned and inspected to HS3150 EM50A to preclude contamination clogging. The running and final torques of all threaded connectors are verified by vendor and DCAS inspection. A trial assembly is run on all details and then they are visually inspected. D. Failure History - None. E. Ground Turnaround - Tested for non-EET processing per FEMU-R-001, V1103.02 Orbiter Check. FEMU-R-001 Para 8.2 EMU Preflight KSC Checkout for EET processing. F. Operational Use - Crew Response - PreEVA: Trouble shoot problem, if no success, consider EMU 3 if available. EMU no go for EVA. PostEVA: EMU no go for subsequent scheduled or unscheduled EVA. Training - No training specifically covers this failure mode. Operational Considerations - Flight rules define require EVA termination when minimum primary consumables remain. EVA checklist procedures verify hardware integrity and systems operational status prior to EVA. Real Time Data System allows ground monitoring of EMU systems.

EXTRAVEHICULAR MOBILITY UNIT
SYSTEMS SAFETY REVIEW PANEL REVIEW
FOR THE
I-113 PRIMARY PRESSURE CONTROL MODULE
CRITICAL ITEM LIST (CIL)

EMU CONTRACT NO. NAS 9-97150

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